



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,618	04/19/2001	Mitsuhiro Nishida	K-1974	8068

7590 05/12/2003  
KANESAKA AND TAKEUCHI  
1423 Powhatan Street  
Alexandria, VA 22314

EXAMINER
----------

FERGUSON, LAWRENCE D

ART UNIT	PAPER NUMBER
----------	--------------

1774

8  
DATE MAILED: 05/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/837,618

Applicant(s)

NISHIDA ET AL.

Examiner

Lawrence D Ferguson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-19 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-19 and 21-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. This action is in response to the amendment mailed February 19, 2003.  
Claims 1-15 and 20 were cancelled, claims 16, 17, 21-23 and 25-28 were amended rendering claims 16-19 and 21-28 pending.

### *Claim Rejections – 35 USC § 103(a)*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 16-19 and 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka et al (U.S. 6,335,832) in view of Glaubitt et al (U.S. 6,177,131).
4. Oka shows an antireflection film comprising a polyester organic substrate film (column 13, lines 19-32), an acrylic hard coat layer of at least 3 microns in thickness (column 13, lines 33-67), a high refractive index layer, and an acrylic resin low refractive index layer (column 26, lines 1-16 and column 42, lines 24-37) wherein the layers comprise ionizing radiation curable acrylic resins (column 13, lines 59-67). Oka shows that ultrafine particles of metallic oxide which provide electrical conductivity are embedded in the hard coat layer and are not more than 200nm in size (column 9, lines

Art Unit: 1774

35-53 and column 11, line 64 to column 12, line 10 and column 22, lines 17-20). Oka shows that the high refractive index layer has a refractive index which is higher than that of the hardcoat layer which has a refractive index of at least 1.63 (column 27, line 31 to column 29, lines 36). Oka shows that the refractive index of the low refractive index layer (surface layer) is about 1.35-1.45 (column 29, line 41 to column 30, line 35) and comprises inorganic particles with low refractive indices and hardness such as a fluorocarbon polymer (column 54, lines 1-17).

Oka does not show the specific amount of metallic oxide particles as in instant claim 17 or the amount of material penetrated into the high index of refraction layer as in instant claim 21. Oka does not show the volume percentage of void fraction as in instant claim 24. However, such ranges of particle concentration and material penetration and percentages of void fraction are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the ranges and percentages, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. ranges) fails to render claims patentable in the absence of unexpected results. All of the aforementioned limitations are result effective as they control the light transmittance, level of electrical conductivity, antireflectivity, refractive index, and voids of the antireflection film. As such, they are optimizable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the

antireflection film with the limitations of the ranges since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215(CCPA1980).

Claims 22 and 23 are included because it is a product-by-process claim. Additionally, the terms "is formed... is coated on... enters into the pores of said precursory layer, and then said liquid material is hardened" and "a solvent of the precursory layer is dried or crosslinked" introduces process limitations to the respective product claims. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claims are unpatentable even though the prior art was made by a different process. *MPEP 2113*. Oka does not specifically show that the high index of refraction layer comprises metallic oxide particles as in instant claim 16. However, Oka shows a functional ultrafine particle layer comprising metal oxide particles such as  $\text{TiO}_2$  and  $\text{ZnO}$  (column 11, line 64 to column 12, line 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the metallic oxide particles in the hardcoat layer since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893). Oka does not disclose an index of refraction layer having pores.

Glaubitt teaches a porous antireflection coating of a predetermined index of refraction (abstract) where an antireflection film is made of different refractive indices to reduce undesirable surface reflections (column 1, lines 63-67). Oka and Glaubitt are analogous art because they are both from the field of antireflection films. It would have been obvious to one of ordinary skill in the art to include pores in the high index refraction layer of Oka because Glaubitt teaches an antireflection film comprising a porous index of refraction layer helps reduce undesirable surface reflections (column 1, lines 63-67) where the second index of refraction layer bonds to the porous layer.

### ***Response to Arguments***

5. Arguments made in regards to rejection made under 35 USC 112, second paragraph overcome the rejection. Additionally, the rejection made under 35 USC 102(e) as being anticipated by Oka et al is withdrawn due to Applicant canceling claims 1,3-5 and 9-15.

The rejection of claims 6-7, made under 35 USC 103(a) as being unpatentable over Oka et al, are withdrawn due to Applicant canceling claims 6-7.

Arguments made in regards to rejection made under 35 USC 103(a) as being unpatentable over Oka et al (U.S. 6,335,832) are moot based on ground of new rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

Art Unit: 1774

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for

After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)

308-2351.



Lawrence D. Ferguson  
Examiner  
Art Unit 1774

~~CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700~~

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

